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OBSERVATIONS

ON THE

Hepatic State of Fever.

BY GEORGE LOGAN,

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HONORARY MEMBER OF THE PHILADELPHIA MEDICAL AND CHEMICAL
SOCIETIES.

"Whoever thinks a faultless piece to see,
"Thinks what ne'er was, nor is, nor e'er shall be;
"In every work regard the writer's end
"Since none can compass more than they intend."

POPE.

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AN
INAUGURAL ESSAY
FOR
THE DEGREE
OF
DOCTOR OF MEDICINE,
SUBMITTED TO THE EXAMINATION
OF THE
REVEREND JOHN EWING, S. S. T. P. PROVOST;
THE
TRUSTEES & MEDICAL FACULTY
OF THE
UNIVERSITY OF PENNSYLVANIA,
ON THE 27th DAY OF MAY, 1802.



TO
WILLIAM LOGAN, ESQUIRE,
OF
CHARLESTON, SOUTH CAROLINA,
THIS ESSAY
IS INSCRIBED,
AS A SMALL BUT SINCERE TRIBUTE
OF
RESPECT AND GRATITUDE,
FROM
AN AFFECTIONATE
GRANDSON,
THE AUTHOR.

TO
TUCKER HARRIS, M. D.

OF
Charleston, South Carolina.

MY DEAR SIR,

WERE the Inaugural fruits of my Medical Studies, which I now inscribe to you, more deserving of your patronage, the summit of my ambition would have been attained....Such, however, as *they are*, I am convinced you will receive with that indulgence which I have to solicit from the generous public.

Permit me, Dear Sir, to embrace this favourable opportunity of making my best acknowledgments, for the numerous favours you have conferred, and the friendship with which you have always kindly distinguished me.

With most fervent wishes for your happiness,

I subscribe myself

Your affectionate Friend,

And former Pupil,

THE AUTHOR.

PREFACE.

IT is a circumstance which has always been much lamented by the Student in the University of Pennsylvania, that for certain considerations, but few weeks can be allotted for the purpose of preparing an Inaugural Thesis, which is the *last* and *indispensible duty* imposed by an institute thereof.

As it will doubtless be expected that something more should be offered, than so trite an apology, for this imperfect Essay, I am induced to flatter myself with the hope that a confession of the very frequent *interruption* of my *health* during its execution, together with the consideration of inexperienced youth, will be sufficient to avert the shafts of criticism, and entitle me to the indulgence of the liberal, the candid, and benevolent reader.

ON THE
HEPATIC STATE OF FEVER.

THERE are no diseases to which the human body is subjected, which have at this enlightened epocha eluded the investigation of the speculative physician, happily for the science of medicine and for suffering humanity, that his indefatigable exertions to develop^{ed} the true causes and nature, have so far been crowned with success, that a few remain deserving the appellation of "Opprobria Medicorum."....May we not anticipate that glorious æra, when these will exist no more, and further indulge in the pleasing hope that the extinction of life shall take place without pain, or the euthenasia of old age will only be known?

The disease which constitutes the subject of this Essay, must in all probability have been coeval with the most antiquated, which assaults the animal machine; on searching into the records

of medicine, we find it described at that remote period when Hippocrates, the Great Father and Founder of Medicine, existed; since his day it has been noticed by most medical historians, but a more satisfactory elucidation of its pathology was reserved for physicians and practical writers, who were residents in the warmer latitudes of the eastern and western parts of our globe, where, from its being peculiarly incidental and frequently occurring, it could not fail to arrest their attention; we have accordingly been furnished with many useful facts relative to this distressing and too often fatal disease, together with an accurate description of its various attending phenomena; in its explanation an illustrious author of our country has been equally as successful in exercising his judgment, as in many other important subjects in medicine.

The Hepatic state of Fever, comprehends the Hepatitis of Nosologists or Liver Disorder of the East and West India writers....from the causes and symptoms to be described, I am induced to treat of the disease under this denomination, from a conviction that it conveys a more just idea of its nature. Hepatic inflammation I therefore consider as a symptom of original disease of the Sanguiferous System, my observations do not extend to those instances of Hepatitis which are far less

common and are induced by gall stones, or injuries which the liver may sustain from the infection of wounds or contusions.

The hepatic fever, as has already been asserted, is an endemic disease of warm climates, and most frequently occurs in the summer and autumn of the United States, when intermitting fever, remitting fever, yellow fever, and dysentery, usually prevail.

Agreeable to the opinion of most physicians, men are oftener attacked with this disease than women, and adults rather than those below the age of puberty. Dr. Gerdlestone has particularly remarked, that adults were invariably the subjects of its invasion....It attacks the sanguineous temperament more frequently than the melancholic*; this position, although in contradistinction to a long since received, but erroneous opinion, that persons of the latter description were more obnoxious to diseased livers, unquestionably true, as it is founded on attentive observation; melancholy I shall presently mention as a symptom usually consequent on the chronic stage of the disease.

These remarks merit consideration, as it is hoped they will tend to corroborate the opinion, that

* Gerdlestone's Essay on Hepatitis in India.

hepatic fever, as it occurs in the East Indies, especially on the coast of Coromandel, is a modification of yellow fever of the West, or billious fever in a greater or less degree of concentration.

The disease in question, alike to rheumatic, pneumonic, phrenitic, and other states of fever, exists under the acute and chronic stages, both of which are produced by the same remote and exciting agents. The chronic, as frequently preceding as it succeeds the acute stage....the same we observe to take place in pneumonula (or pulmonary consumption;) rheumaticula and phreneticula, a neglect of proper remedies, or an accession of new stimuli in the one instance, may induce the acute stage, while in the latter insufficient depletion, or the employment of too feeble remedies will often produce the chronic.

The symptoms which are usually described by authors, as designating this disease are numerous; the most prominent in general accord with Dr. Cullens definition*, they are however extremely diversified, often commencing with chills, succeeded by encreased heat of the body, pulse, synocha, or quick, frequent and tense, sometimes

* *Pyrexia hypochondrii dextri tensio, et dolor sæpe pungens pleurectici instar, sæpius obtusus dolor ad claviculam et summum humeri dextri decubitus in senistrum latus difficilis, dyspnoea, tussis sicca, singultus, vomitus.*

full, hard, and strong; dryness of the mouth and fauces, white tongue, acute pain in the right hypochondrium, and often in the epigastric region, which the patient experiences more severely during inspiration, with a spasmodic twitching, or pain about the clavicle and right shoulder, this however, is by no means an invariable or pathognomic symptom.

The countenance on the first attack is flushed, and the eyes inflamed as is observed in pneumonic and other states of fever, but a sallow or peculiarly pale appearance commonly takes place two or three days after the invasion of the disease.

Jaundice is not unfrequently a concomitant symptom, when the redundance of bile secreted is prevented from passing into the duodenum, in consequence of the inflamed state of the excretories.

When the bile obtains a passage into the duodenum, vomiting, or purging and griping will attend. In some instances costiveness occurs, which is produced by a morbid secretion, or defect of secretion of bile, from congestion of blood in the vena portarum, and hepatic vessels*, interrupting their functions, or inducing disorganization, the same takes place here, as we often ob-

serve in nephritis where there is so great an engorgement of the vessels of the kidneys, as totally to prevent the secretion of urine, and the bladder affords no water to the catheter on its introduction.

Pain or uneasiness in lying on the left side, is not always a uniform symptom, the patient sometimes considers it the easiest position where no attachment with the peritoneum has been formed.

Dry cough and hiccup, frequently attend during the course of the disease.

Hardness and soreness of the gums....an inability to sneeze, from the application of the most powerful sternutatories have been remarked by the East India writers, as very usual premonitory symptoms.

Hepatic Fever, like Yellow Fever, is sometimes preceded by great prostration of strength and spirits, and often the reverse, they are unusually good*. It is in some cases ushered in with symptoms of the greatest malignity, as the peculiar staring and wildness of the eyes†, with inflammation, occasional delirium, a depressed pulse, and blood when drawn evincing all the marks of the highest degree of inflammatory diathesis.

* Gerdlestone, on hepatitis in India. † Mathews, on Hepatic Diseases. p. 144.

Dr. Blane*, in treating of hepatitis, says, "it is worthy of remark, that it sometimes breaks out in the West India islands, like an epidemic; the complaint for instance, was very little known in the island of Grenada, 'till about the year 1785, when, it became very frequent in a particular quarter of the island, and the gentleman who first sent a description of it to England, alledged that there were the most unequivocal proofs of its having been contagious."

This disease often bears the greatest similitude in its attack to pleurisy, from which it may be commonly distinguished by the cough being unattended with expectoration, and the occurrence of vomiting and hiccup, which are seldom attendant on pleurisy; there is however but little necessity for attending to diagnostics, the physician should always be guided by the state of the system, and never by the name of the disease. Pneumonic and hepatic fever, frequently invade the system with equal violence, they have an equal tendency to a rapid and dangerous termination, and require the same prompt depleting remedies.

* Observations on diseases of seamen, p. 92.

The duration of this disease, is to be determined by the violence of its attack, when the symptoms which have been enumerated, continue to increase, an imposthumation of the liver commonly takes place in a few days. But such is sometimes the force of this disease, that the suppurative stage is transcended, and death has been known to ensue by the supervention of gangrene.

A sherrus induration, or enlargement of the liver, is a frequent termination usually consequent on the chronic stage.

The symptoms indicating suppuration to have taken place, are not always very obvious; in the generality of cases, it may however be known; by an abatement of pain, a sense of pulsation, and of weight in the hepatic region, which is most sensibly felt by the patient lying on his left side; at this advanced period, a tumor may often be perceived from its prominence, or on examination with the hand, and sometimes there is an evident fluctuation, numbness of the lower extremities, to these succeed flushings of the countenance, propensity to profuse perspiration, exacerbations of fever towards night, with other hectic symptoms.

In the chronic stage of this disease the symptoms which have been described, also prevail, but differing in degree; the patient here usually suffers an uneasiness and sometimes pain about the scrobiculus cordis, flatulency, and other dyspeptic sensations. The pulse is occasionally encreased in frequency and force, but in many instances it remains soft during the whole course of the disease, and dissections have evinced marks of inflammation and suppuration; when previous to death, no symptom prevailing induced a suspicion of it.

This stage, we have said, is often produced by a protraction of the acute, the remains of morbid excitement are transferred from the sanguiferous system, and absorbed in the liver, or is produced by the same exciting causes as in the acute passing by or affecting, but in a small degree the arterial system and concentrating itself according to the existing predisposition; analogous to pulmonary consumption and mania; it may exist to an indeterminate period of time; it alternates with other diseases, as gout, mania, rheumatism, and sometimes it assumes the form of a common intermitting fever in its periodical recurrence.

The remote causes of hepatic fever, are precisely the same which produce yellow fever, dysentery, cholera, and other forms of bilious fever. The following are the most uniform.

1st. Excess of heat...2nd. Marsh miasmata, the influence of these destructive agents (it is a well authenticated fact) are not confined to the human species alone. The appearance of diseased livers in cattle which are killed during the summer and autumn, is so frequent, that there are few butchers who cannot bear testimony of it; their baneful effects are also exerted on a genus of animals still more remotely allied to man; this is remarkably the case in the East Indies, and particularly excited the notice of Dr. Pennent*, who observes, that “the English foolishly enough, import into Bengal at a vast expence packs of grey hounds, which are soon worn out by the climate: they are landed in good health, but in about a month die of the liver complaint.”

3d. Intemperance in eating and drinking, especially the frequent and excessive potation of

* Pennents View of Hindoostan....P. 254. p. 2.

spirituous liquors; this is the common remote cause of gout, mania, hepatitis and innumerable evils. There are few persons who become attached to strong drink before the meridian of life; hence perhaps its more frequent occurrence at that period. While considering this destructive agent, I shall take the liberty of quoting the explanation of the Fable of Prometheus, which the celebrated and ingenious Dr. Darwin* has offered! "Prometheus was represented as stealing fire from heaven, which might well represent the inflammable spirit produced by fermentation, which may be said to animate the man of clay, whence conquests of Bacchus as well as the temporary mirth and noise of his devotees; but the after punishment of those who steal this accused fire, is a vulture knawing the liver, which well allegorizes the poor inebriate, lingering for years under painful hepatic disease."

4th. Vicissitudes of temperature.

5th. Passions of the mind.

6th. Violent exercise. Dr. Clark † in treating of the diseases on the coast of Coromandel, observes that among the Europeans who undergo

* Zoonomia.....Vol. I. p. 59.

† Observations on diseases of hot climates. Vol. I. p. 106.

much fatigue, and particularly, amongst the military: hepatitis, obstructions and swelling of the liver, were the most common diseases.

7th. Repelled eruptions.

8th. Bad water. Dr. Cleghorn* ascribed the frequent recurrence of this disease, in the east side of Minorca, (in both men and brutes,) to the condition of the water.

These causes, and various others enumerated by authors acting on the system, induce that condition of it, which constitutes the prædisposition to the disease, which consists in direct or indirect debility.

The exciting causes, are reinforcements to the remote, and act by their stimulant powers on accumulated excitability, producing the proximate cause, which is next to engage our attention.



No part of pathology has been for so long a time less perfectly comprehended, and consequently a subject of greater discussion, than the proximate cause of disease. In reviewing the va-

* Cleghorn, on diseases of Minorca.

rious opinions which have been delivered by physicians on the subject, we cannot but conceive them to be equally visionary and hypothetical.... While I adopt the theory which has been taught in this university, I must confess myself actuated alone from a conviction of its being the most plausible, and most consonant with sound reason, in as much as it leads to the most successful method of treatment. The proximate cause of this state of fever is the same with that of all others, and consists in convulsive, irregular, or morbid action in the sanguiferous, more especially in the arterial system, with a determination to the liver. We have elsewhere observed, that Hepatitis from gall stones, contusions, &c. is not included in our present consideration.

In the chronic stage of this disease some difference obtains. Preternatural excitement is seldom diffused through the arterial system, but is *suffocated* or *absorbed* in the liver, this position is supported, by the success which attends the use of those remedies to be presently spoken of; from the alteration of this disease, with those which are evidently primary diseases of the blood vessels, and from appearances on dissection.

It has been a long admitted opinion, that morbid excitement is here confined to the extremities

of the Vena Portarum, which seems highly probable, from the manifest derangement of the secretory economy of the liver; the stimulus of the bile, in a healthy condition, and in sufficient quantities, being essential to the regular peristaltic motion; from preternatural excitement of the secretory vessels, it is defective or is afforded in a morbid condition, which induces indigestion and other symptoms of dyspepsia.



In offering a prognosis in this disease, strict attention to concurring circumstances and experience are required; as appearances are often fallacious, the physician should be cautious in pronouncing his opinion, which may involve his future reputation.

The most favourable conclusions may, however, be generally inferred, when the remedies to be mentioned have been judiciously and sufficiently used.

The following occurrences have been supposed to indicate a favourable issue.

1st. The supervention of a billious diarrhæa.

2nd. A return of some periodical evacuation from the hemorrhoidal and uterine vessels.

3d. Hemorrhagy from the nostrils, but agreeable to ancient writers, from the right nostril only, this erroneous opinion existed at the time of Galen, when it was supposed that inflammatory fevers were only resolved in consequence of hemorrhagies from the affected side; thus demohrrhagy from the right nostril was deemed a happy solution of hepatitis, and a discharge from the left of splenitis.

4th. On erisipelatous eruption, a return of the gutta rosea often proves a favourable event.

5th. Profuse diaphoresis.

6th. Copious discharge of turbid urine.

When the suppurative stage has commenced the prognosis can seldom be favourable; if the abscess which has been formed opens through the diaphragm into the substance of the lungs, and discharged by the bronchiæ, the patient sometimes, (though rarely) recovers*; it frequently opens into the cavity of the abdomen, thorax,

* Clark, on diseases of hot climates.....Vol. II. p. 406.

and in some cases into the pericardium, in which instances death invariably ensues. A more happy issue may be expected when an attachment with the peritoneum is formed, and the imposthume points outwards, or perhaps where the abscess is discharged into the duodenum or colon.

METHOD OF CURE.

IN entering on this important part of our subject, it will be proper in the first place, to treat of the Therapeutics, or employment of those remedies which are necessary to remove an attack of the disease: and secondly, to offer a few remarks on the Prophylaxis, or method to be pursued in obviating its recurrence

When we review the treatment which has been adopted, in many of the cases described by the East and West India physicians; we cannot be surprised at the frequent disappointment which has been experienced, success can seldom be the result of remedies exhibited with inattention to the condition of the system....we have said that this state of fever, like yellow fever, and pneumonia, attacks in some instances with such force, as to prove destructive to life in a very short time:

the remedies should therefore be suited to the exigency of the case; where there is great morbid excitement, venesection should be employed with promptitude, this mode of abstracting excitement, has a pre-eminence over all others, in being less circuitous in its operation, which is an important consideration, inasmuch as it prevents the rapid tendency of this disease, to suppuration, or gangrene, which is sometimes so great as to resist the most active practice....blood-letting must therefore be copious and frequently repeated, for by limiting the use of the lancet here, it is evident that no advantage can be derived from it, and we lose time, which, can never be regained.

As subservient to the indication of depleting, Cathartics may be exhibited; for this purpose the neutral salts have been most commonly approved of. Emollient glysters will also prove useful auxiliaries. Nitre may be given with advantage, when there is not much nausea....acidulated and diluent drinks ought not to be neglected; they often dispose to a salutary perspiration.

Blisters.....Most practitioners who have had experience in this disease coincide in recommending blisters; they are without doubt an invaluable remedy; but when considered alone, under the antiphlogistic treatment, they are so far subor.

dinate to the foregoing remedies, that when a sudden reduction of excitement is required, but little dependence can be placed in them; they should never be prescribed until the system has been reduced to what has been judiciously called the *blistering point*.

As it is probable the utility of blisters may be very considerable in consequence of the depletion; they afford in the vicinity of the part where excitement is concentrated, they should for this purpose be applied in quick succession to the right hypochondrium, which will prove more beneficial than the discharge produced from a single vesication.

But the principal object in the use of this remedy, and its greatest value, consists in its converting a ^{centrifugal} ~~centrifugal~~ into a ^{centripetal} ~~centripetal~~ disease. Morbid action is transferred by the excitement they produce on the external surface, to a less important and less dangerous point.

Mercury, this very important medicine, “the Sampson of the *Materia Medica*,” as it has been emphatically denominated, after vanquishing a host of formidable diseases, has been extolled as the never-failing specific in hepatitis, as such, its exhibition has been urged in the commencement

of the disease. Do we find it always to accord with the opinion which has been delivered? From the testimony of many practitioners, and from the cases on record, it appears to be often ineffectual.

There is no medicine more deserving the encomiums which have been bestowed on it than that which we are now considering, if employed under the circumstances mentioned, when speaking of blisters.

In hepatic fever as in yellow fever, &c. the excitement is often so great as to prevent the action of blisters or mercury; the most prominent depleting remedy should, therefore, be premised; after which, mercury should be used internally and externally; success is commonly insured by speedily inducing a salivation, which acts by slowly depleting the remains of excitement, and by exciting and inflaming the gums, and glands of the mouth; by which means inflammation and excitement are diverted from parts which are more, to such as are less essential to the economy of life. Dr. Gerdlestone asserts, "that he had not seen many cases, before he began to observe that the patient was seldom or never relieved until the gums were made spongy and sore, and where this was not ^e affected suppuration almost always took place."

Mercurial frictions have been generally preferred by the East-India practitioners *. Dr. Lind recommended the ptyalism to be kept up for fifteen or twenty days, and remarks that the mercury sometimes produced a looseness, which also cured the patient.

In an advanced stage of this disease, when suppuration has taken place, this remedy generally proves ineffectual, as salivation can rarely be induced, which seems to proceed from the suppurative action transcending that of the mercury on the salivary glands; in like manner we account for the frequent failure in attempts to salivate in pulmonary consumption.

It is not long since *nitric acid* was introduced into practice by Mr. W. Scott, of Bombay, in consequence of the benefit he received from it, while labouring under the chronic stage of this disease; it has of late been successfully exhibited by several physicians in this city, when but little advantage had been derived from mercury; from the analogy it bears to mercury in its operation, and the greater convenience attending its employment, it appears to at least merit further investigation. It would be incompatible with the limits

* Gerdlestone, Clarke, and other writers.

prescribed this Essay, were I to enter on the discussion of the subject of the *modus operandi* of *oxygenated medicines*; but if the generally received opinion be true, greater advantage will be expected from using the more oxygenated medicines.

Occasional blood-letting and mercury, will be generally found necessary in subduing this disease in its chronic stage; and when there is a periodical recurrence of it, Peruvian bark may be given with advantage, between the paroxysms. Chalybeats, and other tonic medicines, may be used to obviate the debility which sometimes ensues.

When, from a neglect of the treatment proposed, or an injudicious employment of remedies, a suppuration of the liver is known to have taken place by the occurrence of those symptoms elsewhere described, the life of the patient is imminently endangered by a spontaneous opening of the abscess; it should, therefore, be the solicitude of the physician, when the presumption is strong from the prominence of the tumor, fluctuation, &c. that an adhesion is formed with the peritoneum, to procure a discharge externally by means of caustic, or an incision, the latter method should in general be preferred, and will, in most instances, be attended with success; when per-

formed as early as circumstances will indicate to be safe, several cases of recoveries, and a continued enjoyment of health; afterwards, are mentioned by authors*, where an opening of the abscess had been made, without delay, by a free incision with the scalpel.

The exhibition of a brisk emetic, has sometimes proved useful, when an attachment with the duodenum has taken place, the mechanical operation in vomiting, opens and evacuates the contents of the abscess. Professor Rush† relates the case of a patient, whose life was preserved by a brisk emetic which he exhibited, large quantities of pus were puked up, she was prevented from sinking under it by giving a few drops of laudanum.

It remains for me to say a few words under our last indication, to wit, “the means of preventing a recurrence of the disease.”

For this purpose, it will be necessary to guard against all the remote and exciting agents.

Proper restrictions to diet should be enjoined; this is of the utmost importance to be observed,

* Lind, Mathews, and others.

† Rush's M. S. Lectures.

as a keenness of appetite very generally attends convalescents, particularly those who have been under the operation of mercury. The diet should consist of animal food, simply dressed, and vegetables. Drinking of ardent spirits diluted, or in any form, should be strenuously opposed, for which malt liquors, cyder, or lemonade, may be substituted; wine should be sparingly indulged in.

It will be of great consequence to be attentive in the preservation of a proper habit of body; constipation must be early obviated by the occasional use of mild aperient medicine.

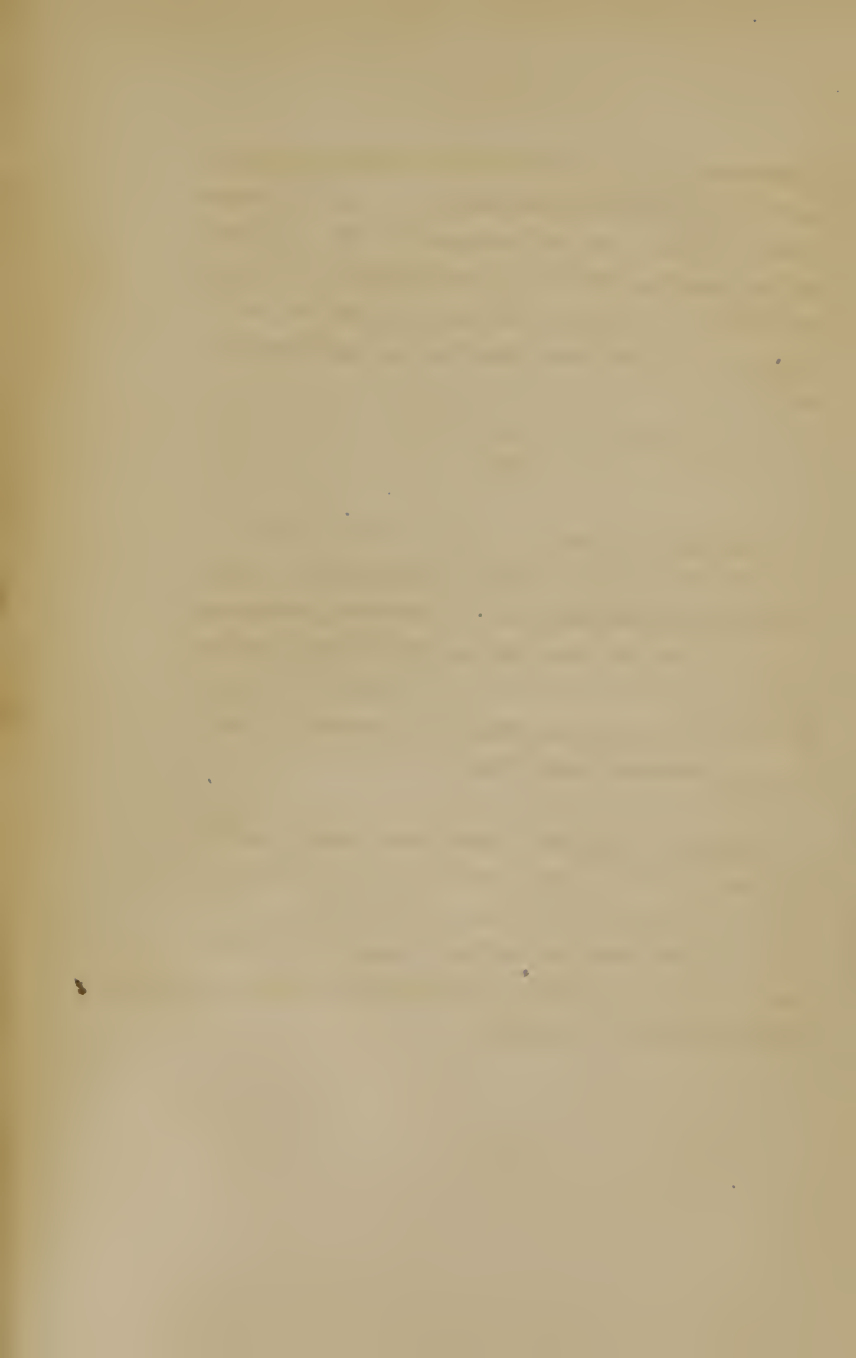
Moderate exercise will be adviseable; but fatigue and insolation are to be sedulously guarded against. Much benefit will be derived from carefully accommodating dress to the vicissitudes of weather.

On a return of the symptoms of the disease, immediate recourse must be had to the remedies mentioned under our first indication; but the use of small doses of calomel, or blood-letting, as a prophylactic, should never be resorted to, as their employment will only serve to induce that condition of the system which they are intended to

counteract. This injunction is equally entitled to the regard of the convalescent, as the unhappy stranger who is not yet initiated to the climate, and by adopting this erroneous opinion, will in all probability, expedite the much dreaded evil, which it has been his intention and solicitude to avert.

I should do violence to my feelings, were I to leave this university without expressing my grateful acknowledgments to the respectable gentlemen who compose the medical faculty thereof; for the instruction derived from their valuable lectures, and for the numerous marks of personal friendship experienced from them.

Accept, illustrious Sirs, my most sincere wishes, for a long continuance of your health, adequate to the important offices which you so ably fill, and for your individual happiness....With sentiments of friendship, esteem, and high consideration, I bid you adieu.



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